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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,983	07/17/2003	Cleo J. Chivikas Connolly	PC20565A	2161

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WARNER-LAMBERT COMPANY
2800 PLYMOUTH RD
ANN ARBOR, MI 48105

EXAMINER

WARD, PAUL V

ART UNIT PAPER NUMBER

1623

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/621,983	Applicant(s) CHIVIKAS CONNOLLY ET AL.	
	Examiner PAUL V. WARD	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
 4a) Of the above claim(s) 6-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group V in the reply filed on April 29, 2005 is acknowledged. The traversal is on the grounds that Groups II-V falls within the same class, and thus, would not present a significant burden on the Examiner to examine these groups. This argument is not found persuasive to overcome Examiner's Restriction because Groups I-VII are separate and patentably distinct since there is no patentable co-action among them. For example, when B is C, C is C and D is N (i.e., Group II) or when B is N, C is C and D is N (i.e., Group V), a reference anticipating one will not render the other obvious. Hence, Applicant's inventions are distinct and have acquired a separate status in the art due their recognized divergent subject matter and different classification. A search of the seven groups would impose an undue burden upon the Examiner. Thus, the restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made **FINAL**.

Group I-IV and VI-VII are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant reserved the right to file a divisional application to the non-elected subject matter.

An action on the merits of Group V (claims 1-5) is contained herein.

Claim Rejections - 35 USC § 102

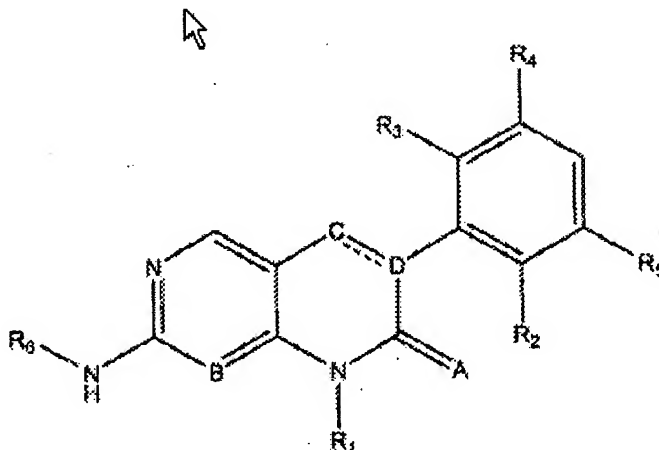
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunn et al. (WO 01/29042).

Applicant teaches pyrimidopyrimidine compounds as kinase inhibitors having the general formula I:



wherein all the variables are as defined in the claim.

Dunn teaches bicyclic nitrogen heterocycles as inhibitors of protein kinase, which share the same formulaic compounds. (See formula I, Abstract). The compounds in the said reference includes B as N, C as C, D as N, A as O, and R₁-R₆ as alkyl, heteroalkyl, H, acyl, heterocyclyl, OH, OR or halogen, and falls within the range of Applicant's pyrimidopyrimidine compounds. (See page 2-4 and Examples). Since

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Dunn teaches the exact compounds, Applicant's claims are anticipated, and thus, rejected under 35 U.S.C. 102(b).

2. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunn et al. (WO 01/29041 A1).

Dunn teaches bicyclic nitrogen heterocycles as inhibitors of protein kinase, which share the same formulaic compounds. (See formula I, Abstract). The compounds in the said reference includes B as N, C as C, D as N, A as O, and R¹-R⁶ as alkyl, H, acyl, heterocyclyl, OH, heteroalkyl, OR or halogen, and falls within the range of Applicant's pyrimidopyrimidine compounds. (See page 10-14, formulae I-IV, Scheme 1 on page 15, and Examples). Since Dunn teaches the exact compounds, Applicant's claims are anticipated, and thus, rejected under 35 U.S.C. 102(b).

3. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Harris et al. (US 6,150,373).

Harris teaches bicyclic nitrogen heterocycles as inhibitors of protein kinase, which share the same formulaic compounds. (See formula I, Abstract). The compounds in the said reference includes B as N, C as C, D as N, A as O, and R¹-R⁶ as alkyl, H, acyl, heterocyclyl, OH, heteroalkyl, OR or halogen, and falls within the range of Applicant's pyrimidopyrimidine compounds. (See col. 1, lines 1-35, col. 2, line 2 to col. 6, and Examples). Since Harris teaches the exact compounds, Applicant's claims are anticipated, and thus, rejected under 35 U.S.C. 102(b).

4. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Dobrusin et al. (WO 99/61444).

Dobrusin teaches bicyclic nitrogen heterocycles as inhibitors of protein kinase, which share the same formulaic compounds. (See formula I, Abstract). The compounds in the said reference includes B as N, C as C, D as N, A as O, and R¹-R⁶ as alkyl, H, acyl, heterocyclyl, OH, heteroalkyl, OR or halogen, and falls within the range of Applicant's pyrimidopyrimidine compounds. (See page 3-6, and 7-16, and 31-42). Since Dobrusin teaches the exact compounds, Applicant's claims are anticipated, and thus, rejected under 35 U.S.C. 102(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (WO 01/29042).

Dunn teaches a generic group of bicyclic pyrimidines and bicyclic nitrogen heterocycle derivatives, which embraces Applicants' claimed compounds. (See formula I, Abstract and definitions for R¹-R⁴). The claims differ from the reference by reciting specific species and a more limited genus than the reference. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to select any of the species of the genus taught by the reference, including those instantly claimed, because the skilled chemist would have the reasonable expectation that any of the species of the genus would have similar properties, and thus, the same use as

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taught for the genus as a whole. One of ordinary skill in the art would have been motivated to select the claimed compounds from the genus in the reference since such compounds would have been suggested by the reference as a whole. A prior art disclosed genus of useful compounds is sufficient to render prima facie obvious a species falling within a genus. Thus, Applicant's claims are obvious, and therefore, rejected under 35 U.S.C. 103.

6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn et al. (WO 01/29041 A1).

Dunn teaches a generic group of bicyclic pyrimidines and bicyclic nitrogen heterocycle derivatives, which embraces Applicants' claimed compounds. (See formula I, Abstract and definitions for R^1 - R^4). The claims differ from the reference by reciting specific species and a more limited genus than the reference. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to select any of the species of the genus taught by the reference, including those instantly claimed, because the skilled chemist would have the reasonable expectation that any of the species of the genus would have similar properties, and thus, the same use as taught for the genus as a whole. One of ordinary skill in the art would have been motivated to select the claimed compounds from the genus in the reference since such compounds would have been suggested by the reference as a whole. A prior art disclosed genus of useful compounds is sufficient to render prima facie obvious a species falling within a genus. Thus, Applicant's claims are obvious, and therefore, rejected under 35 U.S.C. 103.

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7. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris et al. (US 6,150,373).

Harris teaches a generic group of bicyclic nitrogen heterocycle derivatives, which embraces Applicants' claimed compounds. (See formula I, Abstract and definitions for R^1 - R^3). The claims differ from the reference by reciting specific species and a more limited genus than the reference. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to select any of the species of the genus taught by the reference, including those instantly claimed, because the skilled chemist would have the reasonable expectation that any of the species of the genus would have similar properties, and thus, the same use as taught for the genus as a whole. One of ordinary skill in the art would have been motivated to select the claimed compounds from the genus in the reference since such compounds would have been suggested by the reference as a whole. A prior art disclosed genus of useful compounds is sufficient to render prima facie obvious a species falling within a genus. Thus, Applicant's claims are obvious, and therefore, rejected under 35 U.S.C. 103.

8. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobrusin et al. (WO 99/61444).

Dobrusin teaches a generic group of bicyclic pyrimidines and bicyclic nitrogen heterocycle derivatives, which embraces Applicants' claimed compounds. (See formula I, Abstract and definitions for G, W, X,Z and R^1 - R^3). The claims differ from the reference by reciting specific species and a more limited genus than the reference. However, it would have been obvious to one having ordinary skill in the art at the time of

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the invention to select any of the species of the genus taught by the reference, including those instantly claimed, because the skilled chemist would have the reasonable expectation that any of the species of the genus would have similar properties, and thus, the same use as taught for the genus as a whole. One of ordinary skill in the art would have been motivated to select the claimed compounds from the genus in the reference since such compounds would have been suggested by the reference as a whole. A prior art disclosed genus of useful compounds is sufficient to render prima facie obvious a species falling within a genus. Thus, Applicant's claims are obvious, and therefore, rejected under 35 U.S.C. 103.


Conclusion

Claims 1-5 are pending. Claims 1-5 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL V WARD whose telephone number is 571-272-2909. The examiner can normally be reached on M-F 8 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James O. Wilson
Supervisory Patent Examiner,
Technology Center 1600